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ORIGINAL PAPER

The factors that affect the quality of women's sexual function during the first year after childbirth in Greece: a cross-sectional study

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Abstract

Aim: Postpartum sexual dysfunction is common yet understudied, and the factors that contribute to it remain unclear. This study aimed to identify the determinants of sexual function among women in Greece during the first twelve months after childbirth. *Design:* A cross-sectional study. *Methods:* A cross-sectional online survey was conducted among 441 Greek-speaking women. The participants completed a structured questionnaire on sexual function, as well as associated demographic, physical, and psychosocial factors. *Results:* Higher maternal age, shorter sleep duration, limited family support, exclusive breastfeeding, and flatus incontinence were negatively associated with sexual function. In contrast, greater frequency of sexual intercourse before and during pregnancy, as well as a longer time elapsed since childbirth, were positively associated with sexual function. No significant associations were found with perineal trauma, mode of delivery, parity, high body mass index, or smoking. *Conclusion:* Prenatal parenting programs should incorporate counseling on maintaining sexual activity during and after pregnancy, provide information on breastfeeding, promote pelvic floor exercises, and emphasize the importance of family support. These factors were identified as key to improving maternal sexual health postpartum.

Keywords: maternal well-being, postnatal intimacy, postpartum period, reproductive education, sexual health.

Introduction

Sexual function refers to the effective interplay of physical and psychological responses throughout the various stages of sexual activity. It is evaluated based on the levels of sexual desire or arousal, pleasure, lubrication, orgasm, satisfaction, and pain (Hadizadeh-Talasaz et al., 2019). The characteristics of good sexual health after childbirth include sexual desire, continuation of pain-free sexual activity, and the ability to achieve orgasm (Fuentealba-Torres et al., 2019). Therefore, sexual disorders are characterized by the disruption of sexual function that prevents an individual from experiencing sexual pleasure or, in some cases, engaging in any sexual activity (Gutzeit et al., 2020). These are multifactorial conditions that can be caused by both organic and non-organic influencing elements (Gutzeit et al., 2020).

Studies in this field have focused on various factors that seem to be related to sexual dysfunction during the postpartum period. Breastfeeding, the number of births, the mode of delivery, episiotomy, perineal trauma, and the recovery process are a few factors identified in the literature (Gutzeit et al., 2020; Hjorth et al., 2019; O'Malley et al., 2018). Additionally, women's sexual function has been found to be affected by their psycho-emotional state, sleep disorders, pelvic floor exercises, and sexual education (Body & Christie, 2016; Cho & Duffy, 2019; Hadizadeh-Talasaz et al., 2019; O'Malley et al., 2018).

It is important to maintain the highest possible quality of life and well-being for the new mother, as this will have a direct impact on her newborn's quality of life. Sexual health is an indicator of a good quality of life, so it should receive necessary attention from healthcare professionals to preserve it (Hadizadeh-Talasaz et al., 2019). For this reason, it is crucial that midwives and gynecologists become familiar with the prevention, diagnosis, and management of sexual dysfunction in women during the postpartum period.

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Aim

The primary aim of our research effort was to identify the factors that influence the quality of women's sexual function during the first year after childbirth. At present, the literature lacks information regarding the elements that affect postnatal sexual function in the Greek population. To the best of our knowledge, this is the first study to investigate the demographic, sociological, psychological, and obstetric factors that may affect the sexual function of women giving birth in Greece.

Methods

Design

This was a cross-sectional study.

Sample

Women residing in Greece who had delivered a baby more than four weeks but less than 12 months prior were considered eligible for this study.

Data collectio

We constructed an 81-item questionnaire that was posted online via social media from February to April 2021. Data collected included participants' demographics and information regarding their labor and childbirth. Information on their sexual lives before, during, and after pregnancy was also collected. The study used the Female Sexual Function Index (FSFI), a brief, multidimensional tool that retrospectively assesses women's sexual function over the past four weeks. It consists of six domains (1) sexual desire, (2) arousal, (3) lubrication, (4) orgasm, (5) satisfaction, and (6) pain. Each question is scored on a scale from 0 to 5, and the total possible score ranges from 2 to 36 points. A total score of 26.55 or less indicates generalized sexual dysfunction. Additionally, scores of ≤ 4.28 for sexual desire, ≤ 5.08 for arousal, ≤ 5.45 for lubrication, ≤ 5.05 for orgasm, ≤ 5.04 for satisfaction, and ≤ 5.51 for pain indicate sexual dysfunction in the respective domain. Permission to use the Greek version of the FSFI was obtained (Rosen et al., 2000; Wiegel et al., 2005; Zachariou et al., 2017).

The research was conducted in accordance with the Code of Ethics for Scientific Research of the International Hellenic University in Greece, and the study protocol was approved by the Midwifery Department's Scientific Committee (MF 1160/30.9.2021).

Data analysis

Cronbach's alpha reliability coefficients were used to test the questionnaire's psychometric properties, with a threshold of 0.7 indicating sufficient reliability (Tavakol & Dennick, 2011). Means, standard deviations (SDs), medians, and interquartile ranges were used to describe quantitative variables. Absolute (N) and relative (%) frequencies were used to describe qualitative variables. Linear regression analysis was employed to identify independent factors related to female sexual function postpartum. The six domains and the overall score of the FSFI were the dependent variables, while the demographic and obstetric characteristics were considered the independent variables in analyses performed using the stepwise method and logarithmic transformations. Significance levels were two-tailed, with statistical significance set at 0.05. The statistical software used for the analyses was SPSS version 22.0.

Absence of Missing Data

During the data collection and analysis phases, no missing or incomplete responses were identified for the variables of interest. Since completion of the questionnaire was mandatory for submission through the platform, the completeness of the participants' responses was ensured, allowing for a full statistical analysis of all variables.

Results

A total of 517 questionnaires were completed. Fifty-seven participants did not meet the eligibility criteria, and 441 were included in the analysis. Their mean age was 32.5 ± 4.4 years. The vast majority (94.8%) of the participants were of Greek origin, and four out of ten were residing in Athens. Additionally, 87.3% were married, 80.9% were at least university graduates, and 84.3% had a monthly family income of more than one thousand euros (Table 1).

Of the participants, 38.5% worked in the private sector, while a fifth were unemployed. Regarding their partners' employment status, the majority (53.4%) worked in the private sector, and only 3.2% were unemployed. Additionally, 56% of the participants had taken parental leave, and in 15.2% of the cases, their partners had taken parental leave (Table 2).

Approximately half of the participants had given birth six months prior to responding to the questionnaire. A total of 55.2% were first-time mothers, and 72% reported exclusive breastfeeding. The cesarean section rate was 47.9%, and only 34.2% had normal vaginal births. More than 85% of women sustained perineal trauma at childbirth, 39.3% of which was an episiotomy.

Table 1 Demographic data of the sample (N = 441)

	N (%)
Origin	
Greece	419 (94.8)
Cyprus	8 (1.8)
Greece-Mexico	1 (0.2)
USA-Greece	1 (0.2)
Albania	5 (1.1)
Armenia	1 (0.2)
France	1 (0.2)
Georgia	1 (0.2)
Black Sea	1 (0.2)
Kazakhstan	1 (0.2)
Ukraine	1 (0.2)
Romania	1 (0.2)
Living in Athens	
yes	182 (41.2)
no	258 (58.4)
Marital status	
unmarried	6 (1.4)
married	385 (87.3)
cohabitation agreement	37 (8.4)
divorced	1 (0.2)
single	0 (0)
in a relationship	12 (2.7)
Mother's educational level	
junior high school - high school / vocational school	58 (13.2)
post-secondary education (vocational training school, post-secondary education institute, private	25 (5.7)
university / technological educational institute	203 (46.0)
postgraduate	146 (33.1)
doctorate	8 (1.8)
other	1 (0.2)
Family monthly income (€)	
< 1000	68 (15.7)
1000–1500	141 (32.5)
1500–2000	120 (27.6)
2000–3000	67 (15.4)
> 3000	38 (8.8)
	Mean ± SD
Age (years)	32.5 ± 4.4

SD – Standard deviation

Most gave birth in the lithotomy position. In one out of five women, outdated techniques, such as the Kristeller and Valsalva maneuvers, were used during the active second stage of labor. Seventy-five percent of the respondents reported issues with their body image after giving birth (Table 3).

Female Sexual Function Index (FSFI) scores

Table 4 provides the respondents' scores on the FSFI scale postpartum. Higher FSFI scores indicate better sexual function in each respective area and overall. For the six measured parameters – sexual desire, arousal, lubrication, orgasm, satisfaction, and pain – the mean score ranged from 3.3 to 3.9. The mean FSFI score was 21.8 ± 10.7. Moreover, only 16% of the participants were fully satisfied with their sexual activity after giving birth, whereas 24% had not yet resumed sexual activity. During pregnancy, 76% of the respondents reported having sexual intercourse with their partners, with half of them having sex two to three times per month.

Table 2 Employment status of women and their partners (N = 441)

	N (%)
Mother's employment status	
unemployed	86 (19.5)
private sector employee	170 (38.5)
public sector employee	80 (18.1)
self-employed	44 (10.0)
household	38 (8.6)
farmer	4 (0.9)
other	19 (4.3)
Mother's employment status – others	
six-month paid leave	1 (0.2)
unpaid leave	1 (0.2)
substitute teacher	3 (0.7)
judge	1 (0.2)
teacher	1 (0.2)
part-time employment	1 (0.2)
military personnel	2 (0.5)
contract worker	6 (1.4)
doctoral candidate	1 (0.2)
student	2 (0.5)
Partner's employment status	
unemployed	14 (3.2)
private sector employee	234 (53.4)
public sector employee	85 (19.4)
self-employed	90 (20.5)
household	0 (0)
farmer	12 (2.7)
other	3 (0.7)
Partner's employment status – others	
factory owner	1 (0.2)
income earner	1 (0.2)
military personnel	1 (0.2)
Mother's parental leave	
no	194 (44.0)
yes	247 (56.0)
Partner's parental leave	
no	369 (84.8)
yes	66 (15.2)

Table 3 Data regarding intrapartum events, infant feeding, sexual life postpartum, and body image perception (N = 441)

	N (%)
Method of delivery	
Caesarean section	211 (47.9)
normal vaginal birth	151 (34.2)
lithotomy position during childbirth	190 (83.0)
Kristeller and Valsalva maneuvers	50 (21.0)
Perineal condition after childbirth	
no perineal care	193 (85.8)
ignorance about the condition of the perineum	19 (8.3)
Postpartum	
seeking help from a midwife for urinary incontinence	16 (3.6)
no help sought from any specialist despite having urinary incontinence	390 (88.4)
non-existent to intensely unpleasant sexual life	224 (50.7)
issues with body image	330 (75.0)
Method of feeding	
exclusive breastfeeding	318 (72.1)
mixed feeding (breastfeeding & formula)	93 (21.1)
formula feeding	30 (6.8)

Table 4 Numerical scores on the FSFI for the entire sample

	Mean (SD)	Median (interquartile range)	Cronbach's alpha
Sexual desire	3.3 (1.5)	3.6 (2.4–4.8)	0.93
Arousal	3.6 (2.0)	4.2 (1.8–5.4)	0.96
Lubrication	3.8 (2.2)	4.5 (2.1–5.7)	0.97
Orgasm	3.6 (2.3)	4.4 (1.2–5.6)	0.97
Satisfaction	3.9 (1.8)	4.4 (2.4–5.6)	0.88
Pain	3.6 (2.3)	4.4 (1.6–6.0)	0.96
Total sexual function score	21.8 (10.7)	24.8 (13.7–31.0)	0.98

SD – Standard deviation

Psychometric properties of the questionnaire

Cronbach's alpha reliability coefficients were above the acceptable threshold of 0.7, indicating the questionnaire's reliability was acceptable (Table 4).

Association of the FSFI with demographic and obstetric factors

Multiple linear regression analysis was performed on the different parameters of the FSFI scale and the overall sexual function score, considering the demographic and obstetric characteristics of the sample as independent variables. We found a significant correlation of postpartum sexual dysfunction with exclusive breastfeeding, increased maternal age, reduced sleeping hours, limited family support, and the presence of incontinence. Conversely, more frequent sexual activity prior to and during pregnancy was correlated with a higher postpartum sexual function score. Our results showed that women who experienced constipation during their most recent pregnancy had lower scores for different orgasmic parameters, as well as a lower overall FSFI score. In our study, perineal trauma, a high body mass index, smoking, parity, and the mode of delivery did not seem to affect sexual function after delivery. Table 5 provides the independent factors that we found to affect women's sexual function after childbirth.

Table 5 Factors that affect women's sexual function after delivery

	β+	SE++	P
Age	-0.007	0.003	0.032*
Constipation during pregnancy			
no (self-report)			
yes	-0.057	0.027	0.038*
Time period since childbirth	0.020	0.004	< 0.001*
Flatus incontinence after childbirth			
none / mild (self-report)			
moderate / intense	-0.139	0.034	< 0.001*
Breastfeeding			
exclusive (self-report)			
mixed feeding	0.131	0.035	< 0.001*
no	0.090	0.055	0.103
Satisfaction with support from the environment (partner / family / friends)			
very satisfied / satisfied (self-report)			
slightly unsatisfied	-0.075	0.044	0.086
unsatisfied / no help	-0.131	0.054	0.016*
Psychological state on most days of the week			
very good / good / happy (self-report)			
moderate mood	-0.039	0.033	0.232
melancholic / stressed / frustrated / sad / crying	-0.111	0.039	0.005*
Sexual intercourse during pregnancy			
no (self-report)			
yes	0.132	0.033	< 0.001*
Frequency of sexual intercourse before pregnancy (self-report)	0.004	0.002	0.023*

*β+ beta coefficient; SE++ standard error; *the level of statistical significance was defined at p < 0.05*

Discussion

The present study aimed to explore factors affecting women's sexual function during the first year postpartum. Our analysis revealed that factors negatively impacting postpartum sexual function included increased maternal age, limited sleep duration, limited family support, the presence of incontinence, and exclusive breastfeeding. Conversely, increased sexual intercourse frequency before and during pregnancy appeared to have a protective effect against postpartum sexual dysfunction. Additionally, the time period since childbirth positively correlated with sexual function. No correlations were found with perineal trauma, mode of delivery, parity, high body mass index, or smoking.

Breastfeeding is one of the factors extensively investigated for its impact on sexual function during the postpartum period. Most studies agree that there is a correlation between breastfeeding and dyspareunia, reduced vaginal lubrication, and decreased desire for sexual intercourse. The reason is that breastfeeding is associated with low levels of estrogen, progesterone, and androgens, as well as high levels of prolactin (Fuentealba-Torres et al., 2019; Gutzeit et al., 2020; Lagaert et al., 2017; O'Malley et al., 2018). The results of the present study are consistent with the literature in that women who exclusively breastfed were more likely to experience sexual dysfunction than those who mixed fed their newborns. No correlation was found with women who formula fed their babies, probably due to the small number of respondents who chose that feeding method.

Our study revealed a significant impact of maternal age on sexual desire, arousal, orgasm, satisfaction, and the overall FSFI score but not on the lubrication and pain domains. Older participants had lower scores in the aforementioned domains. Similar correlations between age and sexual function are evident in the literature. For example, a statistically significant difference was observed between women in the 18–29 age group and those over 35 years at 12 months postpartum but not earlier (O'Malley et al., 2018). However, other studies failed to find a correlation between maternal age and any domain of female sexual function postpartum (Banaei et al., 2018; Ghorat et al., 2017).

The postpartum period is typically characterized by reduced sleep for women, regardless

of the infant's feeding method. Sleep is extremely important for one's physical and mental health. Reduced sleeping hours, disrupted sleep, and sleep problems in general can lead to sexual dysfunction, affecting arousal, lubrication, orgasm, and satisfaction (Cho & Duffy, 2019; Seehuus & Pigeon, 2018; Smith & Forrester, 2021). Our analysis revealed a strong correlation between satisfaction with sleeping hours and the desire for sexual contact. Women who reported being less satisfied with their sleeping hours had lower scores in the sexual desire domain of the FSFI questionnaire. Accordingly, a study showed a significant correlation between the severity of insomnia and the overall FSFI score, as well as scores for arousal, lubrication, orgasm, and satisfaction; however, there was no correlation with sexual desire or pain during intercourse (Seehuus & Pigeon, 2018).

Fatigue due to maternal duties, the relationship with one's partner, and the partner's involvement in household chores were found to significantly influence women's sexual function in both the present study and the existing literature (McDonald et al., 2017). Another factor associated with all the domains examined by the FSFI, except desire, is women's satisfaction with the help they received from their environment, including support from their partners (McDonald et al., 2017). Arousal, lubrication, orgasm, satisfaction, and pain, as well as the overall FSFI score, are altered in a way that women who feel more satisfied with the help they receive tend to have an improved sexual function. A similar conclusions was reached in another study, which found that women who were satisfied with their partners' involvement in household chores were more likely to be satisfied with their sexual function (McDonald et al., 2017).

Although lubrication is positively affected in women receiving sufficient help from their environment, the present study showed that a partner's presence in the household when he takes paternity leave after childbirth negative impacted the lubrication dimension specifically, as women scored significantly lower on the FSFI. Though seemingly inconsistent with the above finding, it could imply that postpartum women whose partners utilize paternity leave have higher expectations regarding their partner's involvement in household chores and infant care. Since these expectations are not practically fulfilled, the result is less satisfaction.

The physiological changes observed during pregnancy, such as increased progesterone levels, increased iron requirements, and altered dietary habits, may lead to constipation (Galbally et al., 2019). In our study, women who experienced constipation problems during their most recent pregnancy had statistically significantly lower scores in the orgasmic parameters as well as the overall FSFI score. Since constipation affects a substantial percentage of pregnant women and makes them susceptible to sexual dysfunction, it is important for women to be aware of the necessity of the timely diagnosis and treatment of this issue.

Another interesting finding was the correlation between sexual desire, arousal, lubrication, orgasm, satisfaction, pain, and the overall FSFI score and postpartum flatus incontinence. This may be due to feelings of embarrassment or discomfort experienced during sexual intercourse when this symptom occurs. While other studies found that urinary incontinence negatively affected sexual activity after childbirth (Ghorat et al., 2017), this was not confirmed in our study, possibly to the small percentage of respondents reporting such problems (14.3%).

The frequency of sexual intercourse before pregnancy was a predictive factor for better sexual function after childbirth. Specifically, women who had more frequent sexual intercourse with their partners before pregnancy had better scores in the domains of sexual desire, arousal, lubrication, orgasm, satisfaction, pain, and the overall FSFI score postpartum. Similarly, there seems to be a correlation between being sexually active during pregnancy and sexual function after childbirth. Couples who maintained sexual intercourse during pregnancy had lower pain scores and higher scores in the domains of arousal, lubrication, orgasm, and the overall FSFI score. However, another study did not find a correlation between the frequency of intercourse before pregnancy and after childbirth in either primiparous or multiparous women (Banaei et al., 2018).

The existing literature shows that the time period since childbirth constitutes a beneficial factor for women's sexual function (Ramar et al., 2024). Similarly, our study's statistical analysis revealed that the longer the time period since childbirth, the higher the scores women achieved in arousal, lubrication, orgasm, satisfaction, and the overall FSFI score. Conversely, the score in the pain dimension was lower. This result may be attributed to a variety of physiological and psychological changes that occur after childbirth. Physiologically, women gradually heal from any perineal trauma or surgical incisions from cesarean section, and their organs and body weight eventually return

to the pre-pregnancy state. Additionally, hormonal balance is restored, aided by decreased breastfeeding frequency among lactating women as they introduce solid foods to their newborn after the sixth month. Moreover, women stabilize their sleep habits, and their daily routines improve as their newborns progress from infancy, with its particularly high demands, to childhood. All these factors contribute to the gradual normalization of various aspects of family life, including the couple's sexual life.

Perineal trauma appears to be associated with long-term sexual dysfunction postpartum. Particularly, third- and fourth-degree tears were correlated with the development of dyspareunia compared to less severe tears. Data are inconclusive regarding the relationship between episiotomy and postpartum sexual dysfunction (Banaei et al., 2018; O'Malley et al., 2018; Ramar et al., 2024; Rosen & Pukall, 2016; Sobhgol et al., 2019). However, the technique used for repair has been reported to play a significant role, with the technique of continuous suturing showing better results in preventing sexual dysfunction (Aydın Besen & Rathfisch, 2020; Kettle et al., 2012; Martínez-Galiano et al., 2020; Quoc Huy et al., 2019). In our study, no correlation was found between perineal trauma and sexual dysfunction in women, possibly due to the small number of women reporting third- and fourth-degree tears in our sample, as well as the fact that over the past 15 years, continuous suturing has been the mainstream method for repairing perineal tears in Greece.

The mode of delivery was not found to be a factor influencing sexual activity in our study. Similarly, another study also found no significant difference in sexual function quality between women who gave birth vaginally and those who had a cesarean section (Hjorth et al., 2019). In the present study, 47% of deliveries were cesarean sections, which might seem compared to other countries. However, this percentage is lower than the mean for Greece, currently around 60% (Hellenic Statistical Authority, 2022). Data regarding the relationship between mode of delivery and sexual dysfunction are controversial. Some researchers argue that cesarean sections protect against sexual dysfunction, compared to vaginal or operative vaginal deliveries (Fan et al., 2017; Kahramanoglu et al., 2017; O'Malley et al., 2018). Furthermore, at the third month postpartum, women who had a cesarean section experienced less pain and greater sexual desire, while vaginal delivery was associated with increased urinary and fecal incontinence (Ghorat et al., 2017). Notably, all studies conclude that the mode of delivery affects sexual function only short-term, during the postpartum period (Hjorth et al., 2019).

The literature suggests that primiparity is a risk factor for the development of sexual dysfunction after childbirth, compared to multiparity. This may be due to higher rates of perineal trauma and operative vaginal delivery. Additionally, primiparous women tend to feel more insecure about their sexual activity during the postpartum period due to a lack of experience (Banaei et al., 2020; Hjorth et al., 2019; Ramar et al., 2024). However, the present study failed to reveal any correlation between sexual activity and parity. This might be explained by the limited reporting of third- and fourth-degree perineal tears and the fact that forceps-assisted deliveries are not performed in Greece.

The main strengths of our study are its relatively large target population sample size and its use of the FSFI, a validated data collection tool widely referred to in the literature. Therefore, its findings can be compared against similar studies and generate clinically meaningful conclusions. Moreover, we have identified and quantified factors affecting sexual function in Greek settings. These factors can be incorporated into the development of local and national guidelines and recommendations in Greece.

Limitation of study

Our study has some limitations to address. First, the questionnaire was distributed online via several social media platforms, which may have limited access for women who do not use these sources (Hellenic Statistical Authority, 2023). Also, the exclusive use of online data collection, together with the overrepresentation of highly educated and economically secure women in the sample, may have introduced selection bias, limiting the representativeness of the findings and restricting the generalizability of the results to the broader population. Nevertheless, studies in Greece have shown that 85% of the population does utilize the internet for their everyday activities (Hellenic Statistical Authority, 2022). Second, complete anonymity was maintained, and there was no personal contact with the participants to address possible inquiries, provide clarifications, or ensure the accuracy of the medical and obstetric histories they provided. However, this anonymity in data collection may have benefited the study, as some women may have felt safer participating and revealing sensitive data about their sexual lives.

Conclusion

We believe that our findings can be employed by midwives and obstetricians to improve the quality of maternity care services. Prenatal preparation and parenthood programs should incorporate sexual counseling, in which both partners should learn about possible changes in their sexual activity during and after childbirth, as well as methods for managing them to achieve the best possible outcome. Couples should be informed about the safety of sexual intercourse during pregnancy, as it positively impacts sexual satisfaction after childbirth. Additionally, issues regarding hormonal changes during breastfeeding should be discussed, and guidance should be offered to ensure that resumed sexual activity after childbirth is gentle and that the transition from pre-pregnancy sexual habits is gradual and based on the woman's rhythms. It is also important for couples to prepare for the extra help they might need during the early parenthood period so that the mother can get enough rest and sleep, as this is crucial for her well-being. Finally, during prenatal preparation and postpartum midwifery visits, couples should learn ways to detect any symptoms of psychopathology or perineal dysfunction early and ensure they receive proper referrals to professional assistance and management. Thus, midwives and obstetricians are recommended to incorporate an assessment of women's sexual function into routine postpartum monitoring.

Ethical aspects and conflict of interest

The research was conducted in accordance with the Code of Ethics for Scientific Research of the International Hellenic University in Greece and the study protocol was approved by the Midwifery Department's Scientific Committee (MF 1160/30.9.2021).

The authors declare no conflicts of interest.

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Author contributions

Conception and design (EC, DP, EN, AA), data analysis and interpretation (EC, DP, EN, DP, AA), manuscript draft (EC, DP, EN, DP, AA), critical revision of the manuscript (EC, DP, EN, DP, AA), final approval of the manuscript (EC, DP, EN, DP, AA).

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